

- c. ~~a Symbol Boundary Estimator~~ maximum likelihood estimator, the  
maximum likelihood estimator configured for estimating a symbol  
boundary using the samples of the baseband signal, computing a  
maximum likelihood estimate of a mean of phase errors using the  
samples of the baseband signal with the estimated symbol boundary,  
computing a maximum likelihood estimate of a carrier frequency offset  
using the maximum likelihood estimate of the mean of the phase  
errors, and computing a maximum likelihood estimate of a clock error  
using the maximum likelihood estimate of the carrier frequency,  
estimating a symbol boundary using the samples of the received signal  
~~d. a Phase Error Estimator computing the maximum likelihood estimate of~~  
~~the mean of the phase error;~~  
~~e. a Carrier Frequency Offset Estimator computing the maximum likelihood~~  
~~estimate of the carrier frequency offset; and~~  
~~f. a Clock Error Estimator computing the maximum likelihood estimate of the~~  
~~clock error.~~

Claim 5(Cancelled).

Claim 6(Currently amended): A computer program product for clock and carrier recovery at a receiver of a direct sequence spread spectrum communication system, the clock and carrier recovery being accomplished using a predefined training sequence, each symbol of the predefined training sequence being spread by a

- h. viii. instruction means for computing ~~the~~ a phase error introduced in the transmitted ~~signals~~ training sequence from the phase angle of the differential symbol and the differential <sup>angle</sup>  <sub>$\lambda$</sub>
- i. ix. instruction means for accumulating the phase error using the a maximum likelihood weighting scheme;
- j. x. instruction means for incrementing the value of the counter by unity; and
- k. xi. instruction means for repeating steps the instructions b-j ii-x until the value of the counter reaches a value L to obtain the maximum likelihood estimate of the mean of the phase errors, L being the an estimation length in terms of the a number of Differential Binary Phase Shift Keying symbols.